

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 42 (currently amended): A method for identifying the presence of a toxic substance in a sample using a luminescent biological agent, said method comprising the steps of:

preparing a luminescent biological agent which is inhibited by a substance which is toxic to an organism;

obtaining a sufficient volume of ~~the~~ a sample suspected to contain toxic substances which are toxic to an organism to provide a test sample;

separating ~~the~~ toxic substances using a separation phase matrix to provide separated toxic substances;

collecting said separated toxic substances by ~~elusion~~ elution from the separation phase matrix into a plurality of serial aliquot volumes; and

identifying the presence of said toxic substances harmful to an organism in said aliquot volumes by luminescent inhibition.

Claim 43 (previously presented): The method of claim 42 wherein the luminescent biological agent is a luminescent bacteria.

Claim 44 (currently amended): The method of claim 43 wherein the luminescent bacteria is selected from the group consisting of *Photobacterium leiognathi*, *Photobacterium phosphoreum*, *Vibrio Fischeri* fishcheri (ATCC Acc. No. 7744) or *Vibrio harveyi* (ATCC Acc. No. 33843).

Claim 45 (previously presented): The method of claim 44 wherein the luminescent biological agent is *Vibrio harveyi* (ATCC Acc. No. 33843).

Claim 46 (previously presented): The method of claim 44 wherein the luminescent biological agent is *Vibrio fischeri* (ATCC Acc. No. 7744).

Claim 47 (previously presented): The method of claim 42 wherein the luminescent biological agent is selected from the group consisting of a luminescent bacteria, a luminescent fungi, a luminescent

firefly extract, a luminescent anthozoan, a luminescent earthworm extract, a luminescent coelenterate extract and a luminescent crustacean.

Claim 48 (previously presented): The method of claim 42 wherein the luminescent biological agent comprises a luminescent cell.

Claim 49 (previously presented): The method of claim 42 wherein the luminescent biological agent comprises a genetically modified luminescent biological agent.

Claim 50 (previously presented): The method of claim 49 wherein the genetically modified luminescent biological agent comprises an organism genetically engineered to include a luciferase gene.

Claim 50 (previously presented): The method of claim 42 wherein the separation phase matrix is high performance liquid chromatography and the test sample is a soluble sample.

Claim 51 (previously presented): The method of claim 42 wherein identifying further comprises photography.

Claims 52-63 (withdrawn)